

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000053851	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/008393	International filing date (day/month/year) 30 July 2003 (30.07.2003)	Priority date (day/month/year) 16 August 2002 (16.08.2002)
International Patent Classification (IPC) or national classification and IPC C12N 15/82, A01H 5/00		
Applicant METANOMICS GMBH & CO. KGAA		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 23 January 2004 (23.01.2004)	Date of completion of this report 23 November 2004 (23.11.2004)
Name and mailing address of the IPEA/BP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/IPEA/409 (cover sheet) (July 1998)

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/008393

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☒ the description: \_\_\_\_\_, as originally filed  
 pages 1-80  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims: \_\_\_\_\_, as originally filed  
 pages 1-30  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the drawings: \_\_\_\_\_, as originally filed  
 pages 1/3-3/3  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the sequence listing part of the description: \_\_\_\_\_, as originally filed  
 pages 1-114  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

- These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☒ contained in the international application in written form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

Form PCT/PEA/409 (Box I) (July 1998)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/008393

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 10, 21-29 (all totally), 1-9, 11-20, 30 (all partly)

because:

☐ the said international application, or the said claims Nos. \_\_\_\_\_  
relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (indicate particular elements below) or said claims Nos. \_\_\_\_\_  
are so unclear that no meaningful opinion could be formed (specify):

☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported  
by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 10, 21-29 (all totally), 1-9, 11-20, 30 (all partly).

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

Form PCT/IPHA/409 (Box III) (July 1998)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/08393Supplemental Box  
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: III.1

**Non-establishment of opinion with regard to novelty,  
inventive step and industrial applicability**

No search report was established for the subject matter of claims 10, 21 to 29 (all in full) and 30 (in part) since they were not supported by the description and/or were insufficiently disclosed. (see form PCT/ISA/206).

These claims concern in particular the use of a product which is characterized only by a desirable property, namely its effect as a herbicide, or by the method for producing it. However, the present application does not disclose any such herbicide (PCT Article 5). Furthermore, the claims lack the requisite clarity since they attempt to define a product by means of a desirable result (PCT Article 6).

Form PCT/ISA/409 (Supplemental Box) (January 1994)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

 International application No.  
 PCT/EP 03/08393

 V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
 citations and explanations supporting such statement

1. Statement			YES
Novelty (N)	Claims		
	Claims	1-9, 11-20, 30	NO
Inventive step (IS)	Claims		YES
	Claims	1-9, 11-20, 30	NO
Industrial applicability (IA)	Claims	1-9, 11-20, 30	YES
	Claims		NO

## 2. Citations and explanations

1. This report makes reference to the following documents (D) relevant to the present application:

D1: WO 00 42205 A (NOVARTIS ERFIND VERWALT GMBH;  
 NOVARTIS AG (CH); BUDZISZEWSKI GREGO)  
 20 July 2000

D2: US-B1-6 387 637 (WEGRICH LYNETTE M ET AL)  
 14 May 2002

D3: DATABASE GENESEQ 17 October 2000 'Arabidopsis  
 thaliana DNA fragment SEQ ID NO: 13317' Database  
 accession no. AAC36309 XP002264648 - & DATABASE  
 GENESEQ 17 October 2000 'Arabidopsis thaliana  
 protein fragment SEQ ID NO: 13319' Database  
 accession no. AAG13720 XP002264649 - &  
 EP 1 033 405 A (CERES INC) 6 September 2000

D4: DATABASE EMBL 21 January 2000 BENES V ET AL.:  
 'Arabidopsis thaliana DNA chromosome 3, BAC  
 clone F2809' Database accession no. AL137080  
 XP002264650

2. Only a partial search was carried out for the  
 present application since the applicant failed to  
 pay any further search fees, following the  
 invitation to pay additional fees owing to the lack

Form PCT/EP/EA/409 (Box V) (January 1994)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/08393

of unity of invention (PCT/ISA/206).

The following observations are relevant to the subject matter of the invention mentioned first in the claims.

This invention concerns a method of identifying substances having a herbicidal effect using a gene product which is characterized by the protein sequence SEQ ID NO: 2 and is coded by SEQ ID NO: 1; nucleic acid constructs containing this nucleic acid sequence; transgenic plants containing these nucleic acid constructs; antisense nucleic acids and antibodies directed against this gene product; method for producing modified gene products derived from nucleic acid sequence SEQ ID NO: 1.

3. The subject matter of claims 1 to 9, 11 to 20 and 30 (in part) is not novel (PCT Article 33(2)) since D1 and D2 describe the use of sequences covered by the scope of protection of these claims for identifying herbicides (D1: pages 16, 23, 24, SEQ ID NO: 1, 2; D2: columns 17, 18, SEQ ID NO: 1, 2).

D3 and D4 are, moreover, prejudicial to the novelty of the subject matter of claims 9, 13 to 18 and 30.

4. Even if novelty could be established for some of the subjects of the present application, these subjects would certainly not meet the requirement of PCT Article 33(3).

Claim 1 is directed to a method of identifying substances having a herbicidal effect by their influence on the expression or activity of genes and

Form PCT/IPRA/409 (Box V) (January 1994)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/08393

gene products. The difference from the herbicide-identification method described in D1, the closest prior art, lies only in the use of a protein which is indeed different but fully identical in many sections.

Therefore the problem to be solved by the subject matter of claim 1 can be considered only the devising of a further method of identifying substances having a herbicidal effect.

The subject matter of claim 1 solves the same technical problem as above-mentioned document D1, namely the identifying of substances having a herbicidal effect.

A person skilled in the art would consider it routine procedure to use another, closely related protein (e.g. the protein characterized as resembling a release factor in D3) in the D1 method, in particular since this minor modification does not lead to unexpected, surprising technical effects. D1 refers expressly to the similarity of the protein used to this release factor, such that the selection of a further protein having the same function is in no way the result of inventive activity.

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